

**CURRENT SCENARIO OF COSMETIC TOXICITY AND ITS
AYURVEDIC PERSPECTIVE- A CRITICAL REVIEW**

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ABSTRACT

Human being especially females are so beauty conscious that they always inclines their special attention towards skin and its complexion. Since everybody not born with desired appearances, people tend to achieve that by the use of various kinds of cosmetics in their day to day life. Today's generation is fascinated more toward westernized life style & cosmetics which are care materials used to develop the appearance. These materials are proposed to apply on the human body for cleaning, enlightening, increasing charm of the body. A wide range of chemicals are used in the cosmetics as ingredient, active substances, colorants & preservatives. These cosmetics include skin care creams & lotions, cleansers and body washes, nail polishes, deodorants & many

more. Most of the cosmetic products contain hazardous chemicals like Talcum, parabens, Coal tar dye, Phthalates, Fragrance, Triethanolamine and some heavy metals like Lead, Arsenic, Cadmium, etc. Generally peoples are not aware of adverse effects of these chemicals. Due to long term usages, these chemicals accumulates into the body and can cause cancer, reproductive and developmental disorders, contact dermatitis, hair loss, lung damage, ageing, skin disease, allergies and effect on nails. In Ayurveda, cosmetic toxicity comes under the concept of *Dushi Visha*. This article aims to discuss about effects of cosmetics on human health and solutions in perspective of ancient toxicology.

KEYWORDS: Cosmetics, ancient toxicology, chemicals, Dushi visha.

INTRODUCTION

Every person wants to look more impressive, beautiful and smart. The beauty of skin and hair basically depends on individual's health, age, diet, habits, job routine, climatic condition and maintenance. In summer, excessive heat exposure dehydrate the skin and increase melanin content. It causes freckles, wrinkles, blemishes, sunburns, pigmentation. Extreme cold in winter also damage skin as cuts, cracks, maceration and infection are generally observed. Thus to avoid these unwanted damage particular skin care should be taken into consideration. Beauty care helps man and women to look more impressive, beautiful and smart to a considerable extent. Cosmetics are the products use for external application to improve the appearance and self-confidence of a person. The concept of using herbs for beautification is well defined in Ayurveda. The cosmetic preparations like *kajala*, *tilaka*, *aguru*, *chandana*, *haridra* are used for worship and for sensual enjoyment in India since vedic period. But now a day's wide range of chemicals are used in the cosmetics as ingredient, active substances, colorants & preservatives. These cosmetics include skin care creams & lotions, cleansers and body washes, nail polishes, deodorants & many more. Most of the cosmetic products contain hazardous chemicals like Talcum, parabens, Coal tar dye, Phthalates, Fragrance, Triethanolamine and some heavy metals like Lead, Arsenic, Cadmium, etc. Generally peoples are not aware of adverse effects of these chemicals. Due to long term usages, it accumulates in the body and can cause cancer, reproductive and developmental disorders, contact dermatitis, hair loss, lung damage, ageing, skin disease, allergies and effect on nails.

In Ayurveda, these symptoms of cosmetic toxicity can be included under the concept of *Dushi Visha*. It is not fatal due to mild potency and being covered with *kapha*, it stays in body for many years.^[1] Cosmetic products accumulates in body which does not eliminated from the body by any means due to repeated application or usage it shows to cumulative effect on the body.

Concept of Cosmetic toxicity

Ayurveda is an ancient science consist of eight branches. One of these branches is Agadtantra which deals with the study of various toxicities and their management. Toxic effect of various substances are seen frequently in today's day to day routine mostly in the cosmetic. Cosmetics defines as "intended to be applied to the human body for cleansing, beautifying, promoting attractiveness, or altering the appearance without affecting the body's structure or functions."^[2] Cosmetology is the science of alternation of appearance and modification of

beauty. Any substance or preparation intended to be placed in contact with the various external parts of human body (epidermis, hair, nails, lips, and external genitals) or with the teeth and mucous membrane of oral cavity with a view exclusively or mainly to cleaning them, changing their appearance and/or correcting body odors and or protecting them or keeping them in good conditions.^[3] Today's trend of society is towards the consumption & applying the things which ever easily available & long term use of these leads to toxicity which is seen very commonly. All the types of cosmetics & foods we eat sometimes manipulate with the health of our tissues, at times pronouncing as ill effects of *Dushivisha*. The toxins are accumulated in the body by many ways as described by *Acharyas*. In present time these toxins enter into our body by the means of cosmetics & beauty enhancing chemical treatment also.

AIM AND OBJECTIVES

- To study the concept of *Dushivisha*.
- To elaborate the toxic effects of cosmetics on human body.
- To correlate the *Dushivisha* w.s.r. cumulative toxicity of cosmetics.
- To discuss general principal of ayurvedic management of cosmetic toxicity
- To explore ayurvedic alternatives for toxic chemical cosmetics.

Concept of *Dushivisha*

Any type of *visha* (poison) which may be *Sthavaram* (Plant), *Jangamam* (Animal) or *Kritrimam* (Artificial) origin not completely eliminated from body and accumulate within the body, which become less effective due to *jeerna* (partially metabolized or partially detoxified) *vishaghna aushadhi* (anti-poisonous drugs) or *davagni-vata-atapa* (fire-wind-sunrays) or by the own characteristics of poison, it becomes less potent responsible for cumulative effects. Due to *Kapha-avrutatvam* (envelope of *Kapha*) it produces the toxic effects after the long duration.^[4]

According to Ayurveda, human body performs all body functions through various channel systems called "Srotas", included all microscopic and macroscopic structures such as the respiratory system, nervous systems, lymphatic system, circulatory system, reproductive system, etc. These channels function as innumerable psycho-biological processes such as enzyme production, neuro-transmitter secretion, hormonal balance, respiratory capacity and digestive assimilation/ elimination, immune power etc. and also responsible for wellness and

beauty of the individual. These act rhythmically and in concert with one another to perform complex decision-making regarding the supply of nutrients, filtration of toxins, excretion of wastes and much more. If these waste materials are insufficiently metabolized, toxins or incompletely processed foods and experiences can become deposited in weak areas of the body. If unaddressed, these can cause a disease. Weak zones occur in the body due genetic factors or more commonly, lifestyle factors, such as unhealthy food choices, stress or environmental influences. These toxins or unprocessed metabolic deposits can influence the normal psycho-biological cellular functions and loss body lustre and beauty.

Thus to improve the external appearance various types of cosmetic products are used. Cosmetics are the products use for external application to improve the appearance and self-confidence of a person. But many times this aim is achieved, because it depends upon the selection of the quality of product which is based on the type of skin like oily, dry, normal or combine. Due to poor quality of products, lack of experience and skill person cannot achieve his or her goal. Instead of the improvement of external appearance many time the toxic effects of these chemicals can be observed. Because of these products also contains some hazardous chemical which embraced under the cumulative type of toxicity called as *dushivisha* in Ayurveda. Long term use of cosmetics gives rise to hazardous toxic effect & multiple system disorders.

Classification of Cosmetics

Cosmetics may be classified into following categories-

1. Skin Care Cosmetics – Cleansers & Body Washes, Scrubs, moisturizing agent,
2. Hair Care Cosmetics-Shampoo, Hair remover, Hair Colours & Hair Sprays, etc.
3. Face Care Cosmetics-Facial foundation, Powder, lipsticks etc.
4. Nail Care Cosmetics- Nail paint, Paint remover.
5. Fragrance Product-Deodorants, Perfumes etc.
6. UV light screening preparations

Some commonly used cosmetics and their health impact as follows^{[5],[6],[7]}

Sr. No.	Cosmetic name	Name of toxic chemicals	Effect on the body
Skin Care Cosmetics			
1	Cleansers & Body Washes	alcohol & petroleum products	take away natural oils & cause drying
		DEA (Diethanolamine) and its compounds- (Used to make cosmetics creamy, act as a pH adjuster). MEA(Monoethanolamide),	Mild to moderate skin and eye irritation, high dose of these chemicals cause liver cancers and precancerous changes in skin and thyroid.

		TEA (Triethanolamine)	
		The foam creating chemicals include sodium laurel sulphate, ammonium laurel sulphate & myreth sulphate contaminated by 1, 4 dioxane	Skin irritation and cancer
		Parabens	Hormonal disturbance
		Methylisothiazoline & methylchloroisothiazoline	immune system disorders
2	Scrubs	exfoliating ingredients, polyacrylamide, coal tar colours, surfactant TEA that can be contaminated with cancer causing nitrosamines	Carcinogens
		methylizothiazoilone & methylchloroisothiazilone	Immune system toxins.
Hair Care Cosmetics			
3	Hair straighteners	ammonium thioglyconate	eye & skin irritation & allergic reactions
4	Hair Colours & Hair Sprays	Dyes	Ovarian cancer also increased risk of bladder cancer, non-Hodgkin's lymphoma & multiple myeloma.
5	Shampoo	Formaldehyde (to kill bacteria & reduce the risk of skin infections)	Carcinogen
		Parabens (as a preservative)	endocrine disrupting chemicals
		DEA (diethanolamine) as a foaming agent	Skin and eye irritant, high doses can be carcinogenic.
		Cocamide and Lauramide,	alter the genetic material
		sodium lauryl sulphate & sodium laureate sulphate used to create foam in the shampoos can be contaminated with ethylene dioxide	Carcinogenic
		coal tar (as a biocide to some anti-dandruff shampoos)	Carcinogenic and neurogenic damage
6	Hair Remover	Chemical depilatories, high Ph thioglycolic acid	Severe allergic reactions & pustular outbreaks.
Face Care Cosmetics			
7	Foundations	Talc, silica and alumina	respiratory irritants when inhaled as powders
		Aluminium salt	toxic to the nervous system
		Triethanolamine (TEA), nitrosamines.	Cancer
		Lead (Pb)	Target multiple body systems, including the neurologic, hematologic, gastrointestinal, cardiovascular and renal systems.
		Parabens	Interrupt the hormone system & have been found in breast cancer tumours.
8	Lotions	Mineral oils & petrolatum with polycyclic aromatic hydrocarbons (PAHS).	Carcinogenic
		Propylene glycol	Neurotoxin, contact dermatitis at very low concentration
		Lanolin	Allergies
		Triethanolamine (TEA)	skin irritant & immune system toxicant
		Retinal palmitate (for wrinkle reduction)	skin cancer
		Fragrance, phthalates	Triggers asthma, hormone disrupting

9	Body powder	talc or amorphous silica	Lung irritation when inhaled, lung disorders including lung cancer.
		talc in the genital area & on the sanitary napkins	Increased risk of ovarian cancer
10	Shaving creams	carcinogenic residues like TEA, which can be contaminated with nitrosamines & PEG-90 a binding agent that can be contaminated with ethylene dioxide	Cancer
		Propylene glycol (as a moisture carrying ingredient)	skin irritant
		Isobutene & Isopentane (as propellants) contaminated with butadiene	Carcinogen
		parabens or Butylated hydroxyanisole (BHA) (as preservatives)	Allergens and hormone disrupting and carcinogenic effects
11	After Shave	Diethyl phthalate	interfering with endocrine system & causing reproductive problems
Nail Care Cosmetics			
12	Nail Polish	toluene, formaldehyde & dibutyl phthalate (combinly called as “toxic trio”)	Toluene: neurotoxin & teratogenic defects if used by pregnant women Dibutyl phthalate (DBP) (estrogen representing plasticizer) which disrupt thyroid function & accelerate sexual development in young girls also low sperm count in males.
		ethyl acetate	Infuriates the respiratory system
		benzophenone-1	endocrine distracting
		triphenyl phosphate	Neurotoxic
			Chronic poisoning of these toxins produce a syndrome called “Chronic Painter Syndrome (CPS)”. It includes Symptoms like walking & verbal problems, memorial loss, headache, tiredness, temper turbulences, sleep maladies.
13	Nail Polish Remover	Acetone	Harmful for liver, kidneys & nervous system.
Fragrances			
14	Antiperspirants (by blocking sweat ducts)	aluminium compounds such as aluminium trichlorohydrax gly	nervous system toxicity, interfere with oestrogen & play role in rising incidence of breast cancer
15	Deodorant (by inhibiting the growth of bacteria that cause odour)	antibacterial agent triclosan	Disrupting the endocrine system & has been shown to harm the thyroid system
		Isobutene gas contaminated with butadiene as a propellant in Aerosol sprays	Cancer
		Aerosol sprays	Break chemicals into minute particles can be more deeply inhaled than larger particles & this may increase their harmful effects.
		Cyclotetrasiloxane, Dimethicone	Immune and reproductive systems, also influence the nervous system.
16	Fragrance	Diethylphthalate	Endocrine disruptor, impacts normal development and reproductive health.
U.V. Screening			

17	Sunscreen	Toxic chemicals like cinnamates, salicylates, zinc Oxide	allergic reactions & irritation of eyes
18	Sun protection	Chemical sunscreens are oxybenzone, cinnamates & retinyl palmitate.	Oxybenzone- disrupts the body's hormones. It penetrate the skin & enter the bloodstream & increase sensitivity to the sun. Cinnamates- disrupts the body's hormones, cause allergies & may be toxic to the immune system. Retinyl palmitate- synthetic form of vitamin A increasing skin cancer risk when skin is exposed to sunlight
		Debenzoylmethanes, Para-aminobenzoic acid (PABA)	Allergic dermatitis.
		Hydroquinone	ochronosis and mutagenicity

Samprapti (Pathogenesis)

The Samprapti of the chemical toxicity of cosmetics has not been mentioned clearly in the ancient classics but it may be somewhat correlated with Samprapti of Dushi Visha which can explained as follows:

Hetusevana (Aggravating factors)



Visha can be Sthavar, Jangam, Krutrim



If not expelled out properly or suppressed by environmental factors



Due to low potency and envelope of *Kapha*, deposits into the body tissue



Aggravation of *Dosha* and Vitiating of *Dhatu* specially *Rakta Dhatu*



Produce symptoms of *Dushivisha* like *Arunshika* (Acne), *Kotha* (Urticaria)



Application of Cosmetics containing harmful chemicals



Long term use of cosmetics leads to cumulative toxicity (*Dushivisha*)



Hazardous toxic effect & multiple system disorders.

Harmful effects of Cosmetic Toxicities

contact dermatitis, allergies, damage of skin DNA, skin cancer, nervous disturbances, walking & speech problems, memory loss, mood disturbances, sleep disorders, respiratory irritation, asthma, ovarian cancer, developmental problems, endocrine disruptions, thyroid function disorders, disturbance of hormone system, birth defects like cleft palate, undescended testis or delayed development, early sexual development in young girls, low sperm count in males, damage of liver, kidneys, nervous system, hair loss, bladder cancer, non-Hodgkin's lymphoma, breast cancer, etc.

General Principal of Ayurvedic Management

1. *Hetu Viprit Chikitsa*-
2. Specific treatment for *Dushi visha*
3. *Pathya- Apathya*
4. Administration of *kushtaghana Aushadha*
5. Prophylaxis of cosmetic toxicity

I. Hetu Viprit Chikitsa^[8]

The causes due to which the symptoms of those dosa are prominent. The treatment should be opposite of their nature.

1. When patient is having kapha prakriti and Poison is also kapha dosha in nature, in that condition vaman is indicated and application of paste of drugs (drug possess hot and penetrating property). Foods should be astringent, pungent and bitter tastes.
2. When dominancy of pitta– Poisons of Pitta nature by mild virachana (purgations), swedana (sudation), poultices applied very cold and foods which are astringent, bitter and sweet in taste, added with ghee.
3. When dominancy of vata- Poisons of vata nature should be won over by foods which is sweet, unctuous (fatty), sour, salty and added with ghee, application of drugs of the same properties and of meat as food. Purgation, external application of paste of drugs, food and medicine without the addition of ghee is not suitable. There is no medicine better than ghee in all kinds of poisons and in all stages of poisoning especially it is best when vatta dosa is very powerful.^[9]

II. Specific treatment for Dushi visha

According to *Acharya Charaka*, A patient suffered from *Dushivisha* should be first done *Swedana* (sudation or foamentation) and then body detoxified by *Vamana-karma* (~emesis)

and *Virechana-karma* (~purgation). After these procedures daily *Dushi-vishari Agada* should be given to patient.^[9]

But whenever the *dushivisha* enters into *Rakta-dhatu*, then *Siravedha* (bloodletting therapy) along with other *Panchakrmas* (Detoxifying or bio-purification procedures) should be done. Proper *Pathyadikarma* (dilatory managements) should be followed after these detoxifying procedures.^[10]

Shodhana Chikitsa (Purification treatment) i.e. Panchakarma

It is divided into *purvakarma*, *pradhanakarma* and *paschatkarma*

Purvakarma (Preparation to be done before detoxification)

1. *Snehana* (Oleation therapy) is adopted for softening of the channel and toxins. Thus the toxins can easily detached and after that can easily eliminated during main detoxifying procedures.^[11]
2. *Swedana* (Sudation therapy) is adopted after *Snehana*, so that waste materials blocked in the body channels becomes unctuous. Thus by this procedure channel gets lubricated and the waste material brought into the main body channel (*Koshta*). These waste materials now can expelled by *Panchakarma*.^[12]

Pradhanakarma – Main process of *Panchakarma* (main detoxification procedures)

1. *Vamana* (therapeutic vomiting/ Emesis): For elimination of *Kapha dosha* indicated in chronic asthma, chronic diabetes, chronic indigestion, lymphatic congestion, edema, etc.^[13]
2. *Virechana* (Purgation/ Catharsis therapy): For elimination of excess pitta accumulated in gall bladder, liver, small intestine. It helps to expel toxins and vitiated *doshas* from blood, liver and intestine. It is done after *vamana karma* to ensure complete detoxification. *Virechana* indicated in chronic skin disorders, chronic attacks of fever, chronic heart disorders, ascites, etc.^[14]
3. *Basti* (Enema therapy): For elimination of *vata dosha*. It helps to expel body toxins and vitiated *doshas* by introducing medicated oils or liquids into the anus, urethra or vaginal canal. It usually performed after *vamana* and *virechana*. *Basti* indicated mainly for sexual disorders, kidney stones, chronic fever, constipation, distension of abdomen, heart disorders, chronic bone and joint disorders like arthritis, rheumatism, gout etc.^[15]
4. *Nasya/ Shirovirechana* (nasal medication): In *nasya*, medication are administrated through nose. As the nose is gateway of brain, thus this therapy used for expel toxins and

vitiated *doshas* from head and neck along with nasal and oral secretions. *Nasya* is used in neurological and mental disorders like migraine, convulsion, reduced sensory perceptions, loss of memory, and certain eye and ear disorders.^[16]

5. *Raktamokshana* (blood-letting therapy): In this procedure small amount of blood extracting from veins. When toxins present in gastro intestinal tract and absorbed into blood. These toxins circulated all over the body along with blood. It responsible for repeated infections and other circulatory disorders. It also responsible for various skin disorders like urticaria, herpes, eczema etc. In all these disorders *Raktamokshana* can be used. This procedure also stimulate the spleen to produce antitoxic substances, helps in stimulation of immune system.^[17]

Paschatkarma

The strict diet plan and lifestyle procedures should be followed in *Panchakarma* like *vamana* and *virechana*. To bring back the normal lifestyle and diet, some rehabilitative procedures should be followed called as *Pashatkarma*. After *panchakarma* normal diet should not be given immediately because the Agni (digestive system) is hampered. Thus the main aim of these rehabilitative procedures is bring resurge to impaired *agni* it includes administration of *peya* (rice water), *vilepi* (liquid rice), *akrut-krut yusha* (green gram soup), *akrut-krut mansarasam* (mutton soup) in sequence.^[18]

Shaman chikitsa (alleviating therapy)

It is advised when the *doshas* are not deep rooted. After *Shodhana*, *Shamana* is significant to subside the remaining *doshas*. When there is contraindication of *Shodhana* or patient is unable to undertake *Shodhana* then *Shamana* is very effective treatment for them. *Dushivishari agada* is the most important Ayurvedic herbo-mineral preparation indicated in *Dushivisha*. It contains *Pippali* (*Piper longum*), *Dhyamakam* (*Cymbopogon martini*), *Jatamansi* (*Nordostachys jatamansi*), *Lodhra* (*Symplococum racemosa*), *Ela* (*Elettaria cardamomum*), *Suvarchika* (Salt petre), *Kutannatum* (*Oroxylum indicum*), *Natam* (*Valeriana wallichii*), *Kushta* (*Saussurea lappa*), *Yashtimadhu* (*Glycyrrhiza glabra*), *Chandana* (*Santalum album*), *Gairika* (Red ochre).^[19]

Some other *Shamana Chikitsa* given in *Bruhad Nighantu Ratnakara* are- *Tankan Yog*^[20], *Sarkaradi leha*^[21], *Krutrim Vishagruha dhoom tail*.^[22]

According to *Yogaratanakara*- *Pippalyadi Agad*^[23]

III. Pathya- Apathya (dietary management)

Pathya^[24]: *Shigru* (Moringa oleifera), *Amla* (Phyllanthus embilica), *Madhu* (Honey), *Ushnodaka* (Hot water), *Mudga yusha* (Green gram soup), *Kulattha yusha* (Horse gram soup), *Jirna shali* (old rice), *Karkotaki shaka* (Momordica dioca), *Karvellaka* (Momordia charantia), *Lava mamsa-rasa*, *Tittir mansa-rasa*, *Jangal mamsa-rasa*, *Vetragra phala* (Garcinia indica), *Dadima phala* (Punica granatum).

Apathya: Avoid antagonistic diet, over eating, anger, Fear, Exertion, excess of Sexual intercourse, day sleep particularly.

Prognosis of chronic toxicity with special reference to dushi visha

Poison which has localized at the site of shlesma (Amasaya) is curable even without much treatment, that localized in the site of pitta (small intestine) is curable with significant effort and that localized in site of vata (large intestine) is either very difficult to cure even with earnest effort or not curable at all¹⁷.

IV. Administration of kushtaghana Aushadhi

- Ayurveda, *pitta* and *rakta* vitiation are held responsible for impairment of skin health, lustre, colour as well as complexion and skin diseases such as *visarpa* (erysipelas), *vyanga* (melasma), *shvitra* (leucoderma), *dadru* (urticaria), *pippal u* (moles) to name a few, therefore herbs alleviating these two will act as skin lightening agents. Most of the herbs evaluated above for their action upon skin whitening are largely described as *varnya* drugs in Ayurveda. A few among them act indirectly as *varnya* by alleviating *rakta* and *pitta doṣa*.
- Many *alepam* (poultice) *Pradeha*, *upnaha*, *anjana*, oil are described in Susruta Samhita and *astanga hrudaya* in the context of *twak roga*. The very common medicine are- *Kunkumadi lepam*, *Dasnga lepam*, *Chandanadi lepam*, *Dasana samskar churna*, *Kukummadi taila*, *Nilibringaraj taila*, *Himasagar taila*, etc are very well established medicine in Ayurveda.
- Sesame Oil is used as a base in many oil in Ayurveda. It contains Lignan compounds called Sesamin and Sesamolin, which are biologically active. These compounds enhance oxidative stability of the oil. They have potential to be used as anti-oxidant compounds as well as having a moisturising effect.

- Buttermilk and goat's milk powders traditionally used in Indian face mask preparations have soothing and emollient properties. They also contain vitamin A, B6, B12 and E. They would make beneficial alternatives to chemical bases and emollients.
- Shikakai is a traditional herb used in hair shampoos. The material is extracted from the Shikakai pods and Shikakai nuts of the *Acacia Concinna* shrub. The pods are rich in Saponins and make a mild detergent, which has a neutral pH. Aritha powder, extracted from Soapnuts (*Sapindus Pericarp*) also contains Saponins, which acts as a foaming agent. It was used as soap in Ayurvedic tradition. The oils also maintain integrity of cosmetic products and could be used as a base instead of petroleum and plastic derivatives. There are significant evidences already generated for Ayurveda skin care in vitiligo, psoriasis, eczema and acne vulgaris.^[25]

Ayurvedic alternatives for toxic chemical cosmetics are as follows^{[26],[27],[28]}

Skin Care Cosmetics – Cleansers & Body Washes, Scrubs, moisturizing agent,

1. *Kumari* (Aloe vera) - Moisturizer, Sunscreen & Emollient
2. *Zendu* (*Calendula officinalis*) - Wound healing
3. *Kasani* (*Cichorium intybus*) - Skin blemishes
4. *Haridra* (*Curcuma longa*) - Antiseptic, Antibacterial, Improves complexion
5. *Garijara* (*Daucus carota*) - Natural toner and skin rejuvenator
6. *Yashtimadu* (*Glycyrrhiza glabra*) - Skin whitening
7. *Tulsi* (*Ocimum sanctum*) - Anti-aging, Antibacterial & Antiseptic
8. *Satapatri/ Gulab* (*Rosa damascene*) - Toning & Cooling
9. *Manjishta* (*Rubia cordifolia*) - Wound healing & Anti-aging
10. *Godhuma* (*Triticum sativum*) - Antioxidant, Skin nourisher, anti-wrinkle

Hair Care Cosmetics -Shampoo, Hair remover, Hair Colours & Hair Sprays, etc.

1. *Sikakai* (*Acacia concinna*) - Natural Detergent & Anti-dandruff
2. *Kumari* (Aloe Vera) - Cleanser & Revitalizer
3. *Nimba* (*Azadirachta indica*) - Reduces hair loss, Anti-dandruff
4. *Brahmi* (*Bacopa monnieri*) - Hair tonic, Promotes hair growth
5. *Devdaru* (*Cedrus deodara*) - Anti-dandruff
6. *Mandukparni* (*Centella asiatica*) - Darkening of hair
7. *Bhrigaraj* (*Eclipta alba*) - Reduces premature graying of hair, Alopecia
8. 6 *Amalaki* (*Emblica officinalis*) - Toner, Anti-dandruff, Protects & reduces hair loss

9. *Japa* (*Hibiscus rosa sinensis*) - Natural Hair dye, Prevent hair fall, Anti-dandruff
10. *Shati* (*Hedychium spicatum*) - Promotes hair growth
11. *Madyantika/ Heena* (*Lawsonia alba*) - Natural Hair dye, Anti-dandruff, Conditioner
12. *10 Rusmari* (*Rosmarinus officinalis*) - Nourishes, Softens & restores the hair shafts
13. *Arishta* (*Sapindus trifoliatus*) - Natural detergent & Cleanser
14. *Godhuma* (*Triticum sativum*) - Provides nourishment, lubrication & luster
15. *Bibhitaka* (*Terminalia belerica*) - Prevents graying of hair
16. *Tila* (*Sesamum indicum*) - Promotes hair growth, Blackens the hair

Face Care Cosmetics-Facial foundation, Powder, etc. for enhancing fairness

Ayurvedic literature describes over 200 herbs and minerals to maintain and enhance the beauty of the skin. A few herbs evaluated for skin whitening effect from *varṇya mahakashaya*, *lodhradi varṇya gaṇa*, *eladi varṇa prasadana gaṇa* and a few *varṇya* formulations viz. *haridra khaṇḍa*, *nimbadi churna*, *chandanadi taila*, *kuṅkumadi taila*, *kanakarishtha*. Their skin lightening effect are proved on the modern scientific basis by effecting Tyrosinase and other proteins responsible skin darkness and other cosmetic disorders. Tyrosinase inhibition is still the most sought after mechanism of skin lightening, herbs having such property will show promise as depigmenting agents. Some of these herbs are as follows:

1. *Shweta Chandana* (*Santalum album*) - for all types of skin, low acute oral and dermal toxicity
2. *Madhuyashti* (*Glycyrrhiza glabra*) - lightening, emollient, anti-acne, antiaging, antimicrobial
3. *Manjishta* (*Rubia cordifolia*) – enhance complexion even lighten dark spots
4. *Nagakeshar* (*Mesua ferrea*)
5. *Padmaka* (*Prunus cerasoides*) - anti melanogenesis activity by suppression of tyrosinase
6. *Sariva* (*Hemidesmus indica*) -
7. *Ushira* (*Vetiveria zizanoides*) - suppresses the β -MSH-induced melanogenesis
8. *Lodhra* (*Symplococo racemosa*) - Salireposides isolated from its extract has well documented activity against acne producing bacteria
9. *Kushta* (*Saussurea lappa*) - as leprosy, erysipelas, as well as to improve complexion
10. *Tvak* (*Cinnamomum zeylanicum*) - show anti-tyrosinase activity
11. *Kesar* (*Croton sativus*) - anti-pruritic and complexion promotion effects

12. Haridra (*Curcuma longa*) - Curcumin has been found to suppress melanogenesis in stimulated melanoma cells. Rhizomes maximum efficacy of 88.56% inhibition of tyrosinase
13. Daruharidra (*Berberis aristata*) - Antioxidant potential, tyrosinase inhibitory activity
14. Mustaka (*Cyperus rotundus*)
15. Nimba (*Azadirachta indica*) - bark has shown significant tyrosinase inhibition,
16. Khadira (*Acacia catechu*) – methenolic extract has 44.4% tyrosinase inhibitory activity
17. Amalaki (*Phyllanthus embilica*) - potent anti-oxidant, inhibit mRNA expressions of tyrosinase
18. Haritaki (*Termanalia chebula*) - Isoterchebulin had reduced the protein levels of MITF (microphthalmia-associated transcription factor), tyrosinase and its related proteins
19. Sunthi (*Zingiber officinale*) - suppresses murine tyrosinase activity and decreases the amount of melanin as well as intracellular reactive oxygen species (ROS) level in a dose-dependent manner acting as a good whitening agent for skin.
20. Padma (*Nelumbo nucifera*) - tyrosinase inhibitory activity, skin whitening agent.

UV Screening

1. Kumari (*Aloe vera*)- Sun sreen, Moisturizer,
2. Musta (*Cyperus rotundus*) - Sun tanning
3. Shigru (*Moringa oliefera*) - Sun tanning

Natural solution for personal care

People became aware of the dangers present in modern-day personal care products, they started looking for natural alternatives. Fortunately, natural solutions for body care have been around for millennia. Until the first half of the 20th century, only natural solutions were used for personal grooming and cosmetics. Here, we will discuss about natural solution for personal care.

1. Customize your skin and beauty care:

Selection of the cosmetics based on the type of skin. i.e. Oily skin, Dry skin, Normal skin or combined skin. Once you figure out your skin type, it's easy to choose the right products to create beauty from the inside and the outside.

2. Feed your skin: Eating healthy foods provide the building blocks for skin cell regeneration.
3. Get your beauty sleep

4. Zap stress lines
5. Body exercise
6. Cleanse gently and naturally
7. Do a daily ayurvedic massage (*Abhyanga*)
8. Moisturize thirsty body skin
9. Give your hair the royal treatment

To nourish your hair, bones and nails, be sure to eat lots of calcium-rich foods such as leafy green vegetables, milk products and sesame seeds. One of the unique and powerful Ayurvedic methods for caring for the hair is a warm oil massage to the scalp. The massage motion helps increase circulation, cleanse the pores and purify dead skin cells, all of which promotes healthier hair growth.

10. Expose skin to sunlight

Expose skin to sunlight for at least 15 mins a day that too without an UV protection.

11. Drink 10-12 glass water a day.

Natural products which are useful in daily life as Cosmetics

Bathing: Soap made from vegetable oil. Herbal bathing powders made with gram flour (Besan), green gram flour (hari moong) etc.

Hair care: Shampoos containing *Reetha*, *Shikakai*, *Amla* as the main ingredients.

Talcum powder: Corn flour, Arrowroot powder.

Skin toner: from Cucumber juice, carrot juice, lemon juice, spearmint tea, chamomile tea

Peaches and cream mask: Peaches, peeled, pitted, and mashed, almond oil

Eye cream: Avocado oil, apricot kernel oil or sesame oil; aloe vera gel

Shaving soap: Shaving soap typically made with plant-based oil like coconut oil, castor oil, beeswax etc. would be a better option than cream or foams.

After shave: Alum is a commonly use as after shave disinfectants.

Uses of banking soda: Facial scrub and hand cleaner/softener, Hair cleanser

Uses of vinegar: Hair rinse, clean scalp, bath soak, hand softener and cleanser, hair brush cleaner.

DISCUSSION AND CONCLUSION

As per Ayurveda *Dushivisha* can be correlate with cumulative toxicity. *Dushivisha* is not acute condition but its effect seen gradually on the body. These poisons accumulated in the body frequently and produces the harmful effects in the body after the certain duration, thus acts as cumulative poisons. *Dushivisha* shows various types of toxic symptoms & disorders on different systems of the body which mainly includes skin, G.I tract, nervous system and other systems. Cosmetics can be embraced under such cumulative type of toxicity. Long term use of cosmetics gives rise to hazardous toxic effect & multiple systemic disorders. By using *Shodhana* and *Shamana chikitsa* along with specific treatment of *Dushivisha* explained in ayurveda these disorders can be cured. But still the alternatives for the chemical cosmetics is demand of time in the recent period. Thus compilation of various herbs described in ayurveda that can used for cosmetic purpose along with this natural alternatives for personal care, which do not produce toxic effects to the individual as well as safe for the environment are elaborated in the article.

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